AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A measuring method using attenuated total reflection comprising the steps of:

entering a collimated light beam containing a plurality of wavelengths, and having a sizable cross sectional area, through a dielectric block of a measuring unit comprising a thin film layer formed on one of the surfaces of said dielectric block, and a sample holding structure for holding a sample provided on said thin film layer, into the interface between said dielectric block and said thin film layer at an angle that satisfies the conditions of attenuated total reflection at said interface;

selecting a collimated light beam having a predetermined wavelength from the collimated light beam totally reflected from said interface; and

measuring the distribution of optical intensities on the cross section of said selected light beam,

wherein said selecting step comprises a variable selection of said predetermined wavelength of said collimated light beam.

2. (original): A measuring method according to claim 1, wherein said wavelength selecting step selects a plurality of collimated light beams of different wavelengths

simultaneously; and said measuring step detects the respective distributions of optical intensities on the cross sections of said plurality of collimated light beams of different wavelength.

3. (currently amended): A measuring apparatus using attenuated total reflection comprising:

a measuring unit comprising a thin film layer formed on one of the surfaces of a dielectric block, and a sample holding structure for holding a sample provided on said thin film layer;

an illuminating means for entering a collimated light beam containing a plurality of wavelengths, and having a sizable cross sectional area, which is generated, and emitted from a light source, into the interface between said dielectric block, and said thin film layer, through said dielectric block, at an angle that satisfies the conditions of total reflection at said interface;

a wavelength selecting means disposed in the optical path of the collimated light beam totally reflected from said interface, and adapted to select a collimated light beam having a predetermined wavelength from said collimated light beam containing said plurality of wavelengths; and

a two-dimensional optical detecting means for detecting the distribution of optical intensities on the cross section of said collimated light beam selected by said wavelength selecting means,

wherein said wavelength selecting means variably selects said predetermined wavelength of said collimated light beam.

4. (original): A measuring apparatus according to claim 3, wherein said wavelength selecting means is adapted to select a plurality of collimated light beams of different wavelength simultaneously; and said two-dimensional optical detecting means is adapted to detect the respective distributions of optical intensities on the cross sections of said plurality of collimated light beams of different wavelength.

5. (original): A measuring apparatus according to claim 3, wherein said apparatus further comprises a dispersion suppressing structure for suppressing the dispersion of said collimated light beam at said dielectric block.

6. (original): A measuring apparatus according to claim 4, wherein said apparatus further comprises a dispersion suppressing structure for suppressing the dispersion of said collimated light beam at said dielectric block.

7. (original): A measuring apparatus according to claim 5, wherein said dielectric block is formed such that the optical entrance surface thereof is perpendicular to the optical axis of said collimated light beam, and serves as said dispersion suppressing structure.

8. (original): A measuring apparatus according to claim 6, wherein said dielectric block is formed such that the optical entrance surface thereof is perpendicular to the optical axis of said

collimated light beam, and serves as said dispersion suppressing structure.

9. (original): A measuring apparatus according to claim 3, wherein said apparatus further comprises a dispersion compensating means for compensating for the dispersion of said collimated light beam at said dielectric block.

10. (original): A measuring apparatus according to claim 4, wherein said apparatus further comprises a dispersion compensating means for compensating for the dispersion of said collimated light beam at said dielectric block.

11. (original): A measuring apparatus according to claim 3, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

12. (original): A measuring apparatus according to claim 4, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

13. (original): A measuring apparatus according to claim 5, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

14. (original): A measuring apparatus according to claim 6, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

15. (original): A measuring apparatus according to claim 9, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

16. (original): A measuring apparatus according to claim 10, wherein said thin film layer has a sensing material thereon that interacts with a specific component of said sample.

17. (original): A measuring apparatus according to claim 3, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

18. (original): A measuring apparatus according to claim 4, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

19. (original): A measuring apparatus according to claim 5, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

20. (original): A measuring apparatus according to claim 6, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

21. (original): A measuring apparatus according to claim 9, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

22. (original): A measuring apparatus according to claim 10, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

23. (original): A measuring apparatus according to claim 11, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

24. (original): A measuring apparatus according to claim 12, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

25. (original): A measuring apparatus according to claim 13, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

26. (original): A measuring apparatus according to claim 14, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

27. (original): A measuring apparatus according to claim 15, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

28. (original): A measuring apparatus according to claim 16, wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral component into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.

29. (original): A measuring apparatus according to claim 17, wherein said separating means is a diffraction grating, or prism.

30. (original): A measuring apparatus according to claim 18, wherein said separating means is a diffraction grating, or prism.

31. (original): A measuring apparatus according to claim 19, wherein said separating means is a diffraction grating, or prism.

32. (original): A measuring apparatus according to claim 20, wherein said separating means is a diffraction grating, or prism.

33. (original): A measuring apparatus according to claim 21, wherein said separating means is a diffraction grating, or prism.

34. (original): A measuring apparatus according to claim 22, wherein said separating means is a diffraction grating, or prism.

35. (canceled).

36. (canceled).

37. (previously presented): A measuring apparatus according to claim 3, wherein said wavelength selecting means further comprises:

a separating means separating said collimated light beam into spectral components;

a selecting means converging a part of said spectral components to pass through a slit and transforming said converged spectral components into a collimated light beam; and

a sweeping means changing the relative angle between said separating means and said selecting means;

wherein said wavelength selecting means is adapted to select a plurality of collimated light beams of different wavelength simultaneously.

38. (currently amended): A measuring apparatus ~~according to claim 3~~ using attenuated total reflection comprising:

a measuring unit comprising a thin film layer formed on one of the surfaces of a dielectric block, and a sample holding structure for holding a sample provided on said thin film layer;

an illuminating means for entering a collimated light beam containing a plurality of wavelengths, and having a sizable cross sectional area, which is generated, and emitted from a light source, into the interface between said dielectric block, and said thin film layer, through said dielectric block, at an angle that satisfies the conditions of total reflection at said interface;

a wavelength selecting means disposed in the optical path of the collimated light beam totally reflected from said interface, and adapted to select a collimated light beam having a predetermined wavelength from said collimated light beam containing said plurality of wavelengths; and

a two-dimensional optical detecting means for detecting the distribution of optical intensities on the cross section of said collimated light beam selected by said wavelength selecting means,

wherein said wavelength selecting means ~~further~~ comprises:

a separating means;

a selecting means; and

a sweeping means;

wherein said sweeping means changes the relative angle of a light beam output from said separating means to said selecting means, and said wavelength selecting means is adapted to select a plurality of collimated light beams of different wavelength simultaneously.

39. (currently amended): A measuring apparatus ~~according to claim 3~~ using attenuated total reflection comprising:

a measuring unit comprising a thin film layer formed on one of the surfaces of a dielectric block, and a sample holding structure for holding a sample provided on said thin film layer;

an illuminating means for entering a collimated light beam containing a plurality of wavelengths, and having a sizable cross sectional area, which is generated, and emitted from a light source, into the interface between said dielectric block, and said thin film layer, through said dielectric block, at an angle that satisfies the conditions of total reflection at said interface;

a wavelength selecting means disposed in the optical path of the collimated light beam totally reflected from said interface, and adapted to select a collimated light beam having a predetermined wavelength from said collimated light beam containing said plurality of wavelengths; and

a two-dimensional optical detecting means for detecting the distribution of optical intensities on the cross section of said collimated light beam selected by said wavelength selecting means,

wherein said wavelength selecting means ~~further~~ comprises:

a rotatable diffraction grating; and

a slit;

wherein said rotatable diffraction grating separates said collimated light beam into spectral components, and a part of said spectral components is converged to pass through said slit.

40. (new): A measuring method according to claim 1, wherein said wavelength selecting step separates said collimated light beam into spectral components, converges a part of said spectral components to pass through a slit and thereafter transforms said converged spectral components into a collimated light beam, and wherein a relative angle between said separated collimated light beam and said converged spectral components is changeable.

41. (new): A measuring apparatus using attenuated total reflection comprising:

a measuring unit comprising a thin film layer formed on one of the surfaces of a dielectric block, and a sample holding structure for holding a sample provided on said thin film layer;

an illuminating means for entering a collimated light beam containing a plurality of wavelengths, and having a sizable cross sectional area, which is generated, and emitted from a light source, into the interface between said dielectric block, and said thin film layer, through said dielectric block, at an angle that satisfies the conditions of total reflection at said interface;

a wavelength selecting means disposed in the optical path of the collimated light beam totally reflected from said interface, and adapted to select a collimated light beam having a predetermined wavelength from said collimated light beam containing said plurality of wavelengths; and

a two-dimensional optical detecting means for detecting the distribution of optical intensities on the cross section of said collimated light beam selected by said wavelength selecting means,

wherein said wavelength selecting means comprises a separating means for separating said collimated light beam into spectral components; a selecting means for converging a part of said spectral components to pass through a slit, and thereafter transforming said converged spectral components into a collimated light beam; and a sweeping means for changing the relative angle between said separating means and said selecting means.